

What is claimed is:

1. A rotary blower comprising a housing, first and second meshed, lobed rotors rotatably disposed in the housing for transferring relatively low pressure inlet port air to relatively high pressure outlet port air; first and second meshed timing gears fixed relative to said first and second rotors, respectively, for preventing contact of said meshed lobes; an input drive adapted to be rotatably driven by a positive torque, about an axis of rotation in one drive direction at speeds proportional to speeds of a periodic combustion engine; and a torsion damping mechanism for transmitting engine torque from said input drive to said first timing gear, said torsion damping mechanism including a first member fixed to rotate with said input drive, a second member fixed to rotate with said first timing gear, and a helical torsion spring having an input end fixed to rotate with said input drive and an output end fixed to rotate with said first timing gear, said torsion spring defining a normal inside diameter surrounding, and closely spaced apart from, an outer cylindrical surface defined by said first and second members; characterized by:
 - (a) said housing defining a chamber containing a quantity of fluid whereby rotation of said first and second) timing gears results in the generation of an air-oil mist within said chamber;
 - (b) said first and second members defining therebetween an axial gap disposed axially intermediate said input end and said output end of said torsion spring; and
 - (c) one of said first and second members defining an angled passage having a radially outer end in communication with said axial gap, and a radially inner end in communication with the axially opposite end of said member, whereby rotation of said members generates a flow of said air-oil mist through said angled passage and said axial gap and between said outer cylindrical surface of said

members and said inside diameter of said torsion spring.

2. A rotary blower as claimed in claim 1, characterized by said input drive comprises an input pulley fixed to rotate with an input shaft, said first member) being fixed to rotate with said input shaft.
3. A rotary blower as claimed in claim 2, characterized by said first member comprises an input hub member fixed to rotate with said input shaft, and said second member comprises an output hub member fixed to rotate with a timing gear shaft, said first timing gear being fixed to rotate with said timing gear shaft.
4. A rotary blower as claimed in claim 3, characterized by said input hub member including a generally cylindrical portion surrounding, and closely spaced apart from, an outer cylindrical surface defined by said torsion spring, said generally cylindrical portion defining a plurality of openings (88) to facilitate said flow of said air-oil mist.
5. A rotary blower as claimed in claim 1, characterized by said helical torsion spring comprises coils having a generally square or rectangular cross section.